

CLAIMS

1. A signal quality testing apparatus for an optical disk (1) of the type that stores optically readable information in the form of a spiral or annular pattern (2) defining a plurality of concentric tracks (3),
5 characterized by

an optical read device (21);

a drive mechanism (22) adapted to move the optical read device (21) radially over a portion of the disk (1)
10 surface across at least some of said tracks (3);

a processing device (40) adapted to select portions of a time variant measurement signal received from said optical read device, said measurement signal being associated with passages of the moving optical read device
15 across respective tracks;

2. A signal quality testing apparatus according to claim 1, wherein the processing device (40) is adapted to measure the signal amplitude in said portions as to
20 identify at least one signal pattern associated with said signal information in said tracks.

3. A signal quality testing apparatus according to claim 1 or 2, wherein the processing device (40) receives
25 the measurement signal from an Analog to Digital converter (30) operatively coupled between the optical read device (21) and the processing device.

4. A signal quality testing apparatus according to
30 claim 1-3, wherein the processing device further comprises memory means (45a,b,c) for storing program instructions and/or measurement data.

5. A signal quality testing apparatus according to claim 1-4, wherein said processing device (40) comprises a controller (41) in form of a FPGA.

5 6. A signal quality testing apparatus according to claim 1-4, wherein said processing device (40) comprises a controller (41) in form of an ASIC.

7. A quality testing apparatus according to claim 1-
10 4, wherein said processing device (40) comprises a controller (41) in form of a microprocessor.

8. A method for testing signal quality of an optical disk (1) of the type that stores optically readable
15 information in the form of a spiral or annular pattern (2) defining a plurality of concentric tracks (3), characterized by the steps of:

scanning (60) an optical read device (21) radially over at least a portion of a surface of the optical disk
20 (1) across at least some of said tracks (3);

producing (64) a time variant measurement signal associated with passages of the optical read device across respective tracks;

selecting (66) at least one portion of the
25 measurement signal comprising information related to a single track;

9. A method according to claim 8, further comprising the steps of measuring (68) the signal amplitude in said
30 portions as to identify (70) at least one bit pattern associated with the information in said tracks.

10. A method according to claim 8 or 9, wherein said portion of the measurement signal is compensated for
35 effects related to the radial scanning.

11. A method according to claim 10, wherein said compensation comprises the step of applying (68) an inverse envelope signal to the measurement signal.

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12. A method according to claim 8-11, wherein said bit pattern is at least a first I_3 bit pattern.

13. A method according to claim 8-11, wherein said
10 bit pattern is at least a first I_{11} or I_{14} bit pattern.

14. A method according to claim 8-11, wherein said bit pattern is at least a first I_{TOP} bit pattern.

15 15. A method according to any preceding claim, wherein the speed by which the radial scanning is performed is lower than the track speed.

16. A method according to any preceding claim,
20 further comprising the steps of calculating the ratio I_3/I_{TOP} and I_{11}/I_{TOP} .

17. A method according to any preceding claim,
further comprising the step of determining the level of
25 symmetry of the I_3 and I_{11} signal components.

18. A computer program product directly loadable into an internal memory (45a, b, c) associated with a processor (41), said processor being operatively coupled to an
30 optical read device (21) and a drive mechanism (22) adapted to move the optical read device (21) radially over a portion of the surface of a disk (1), said disk being of the type that stores optically readable information in the form of a spiral or annular pattern (2) defining a
35 plurality of concentric tracks (3), across at least some

said tracks as to produce a time variant measurement signal, comprising program code for selecting at least one portion of the time variant measurement signal ^{and ...} when executed by said processor.

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19. A computer program product as defined in claim 18, embodied on a computer-readable medium.

20. A computer having a memory (45a, b, c) and
10 a processor (41), said processor being operatively coupled to an optical read device (21) and a drive mechanism (22) adapted to move the optical read device (21) radially over a portion of the disk (1) surface across at least some of said tracks (3) as to produce a time variant measurement
15 signal, the memory containing program code for selecting at least one portion of the time variant measurement signal when executed by said processor.